In the Specification:

Amend paragraph [0005] as follows:

A1

[0005] Data is transmitted through coaxial cable, twisted wire pair or other transmission medium in packets using any of a variety of methods for coding data onto an analog medium, including amplitude modulation, frequency modulation and phase modulation. Two commonly used forms of phase modulation are binary phase shift keying (BPSK) and quadrature phase shift keying (QPSK). BPSK uses a two-phase modulation scheme -- an in-phase signal and a 180 degree out-of-phase signal. During each baud (i.e., digital symbol transmission cycle), the transmitter sends one of the two signals. The phase sent determines the value of the bit transmitted (1 or 0). A single binary bit per baud is conveyed from transmitter to receiver during each baud time. QPSK uses a four phase modulation -- an in-phase signal, a 180 degree out-of-phase signal, a $\pm$ 90 degree phase signal, and - 90 degree phase signal. During each baud, the transmitter sends one of the four signals. Two binary bits per baud are thus conveyed during each baud time. See, e.g., U.S. Patent No. 5,289,467. Another commonly used modulation method is quadrature amplitude modulation (QAM). QAM provides more bits per symbol transmission cycle by combining phase shift and amplitude keying to provide bit encoding within an in-phase and quadrature component (I-Q) modulated constellation space. A 16-bit QAM format, for example, uses 12 different phases and three different amplitudes to represent 16 possible carrier states, or four bits per baud cycle. See, Telecommunications, above, at 332 - 333.

Amend paragraph [0006] as follows:

A2

[0006] Data is encapsulated or "packed" into frames at the transmitter, and decapsulated or "unpacked" from the frames at the receiver. The packet preamble provides a mechanism for establishing synchronization ("sync") between the packing and unpacking operations. A preamble generator at the transmitter creates a preamble for each of the data packets and a preamble decoder at the receiver decodes the preamble of the data packet and determines sync for the packet. The preamble generated by the preamble generator may include a carrier detect interval, a carrier sync interval, a bit sync interval and a word sync pattern. The carrier detect interval is used by the receiver to identify the

beginning of a packet. The carrier sync interval is used by a carrier synchronization circuit to identify the phase of the incoming transmission. T~~t~~he bit sync section of the preamble is used by a bit (baud) synchronization circuit to indicate the positions of baud symbols within the packet. T~~t~~he word sync pattern is used by the preamble decode to identify the beginning of a baud grouping, such as a forward error correcting (FEC) word. The remainder of the packet is transmitted and received as a collection of FEC words. See, e.g., U.S. Patent No. 5,289,476.

A2

Amend paragraph [00007] as follows:

A3

[0007] The preamble functions as a synchronization symbol. To achieve frame synchronization or sync, each frame ~~having~~ has a header with a predefined format and grouping of pseudo-random number sequences comprising symbols. The formatted signal including the preamble is transmitted to the receiver using the chosen modulation scheme. At the receiver, a correlator, utilizing a synchronization detection algorithm, is designed to match a predetermined symbol pattern with the received signal. Once the frame synchronization is established, the channel is characterized and the data symbols are recovered.

Amend paragraph [0009] as follows:

A4

[0009] Specific examples of packet data transmission include multipoint-to-point packet networks (such as CATV HFC upstream channels) and multipoint-to-multipoint packet networks (such as home phone wire networks). In both, a preamble (i.e. a sequence of a priori known symbols) is appended at the beginning of each data packet. Preamble symbols are usually of low constellations (such as BPSK or QPSK) while the payload (the data symbols) can be of higher constellations. The known preamble symbols allow for timing, amplitude and phase recovery and thereby acquisition of the data packets in the channel. The estimation error of these parameters in additive white Gaussian noise (AWGN) channels is inversely proportional to the length of the preamble and to the average power of the preamble symbols. Adequate estimation of these parameters is

A4

crucial for ~~the~~ packet acquisition. When the estimation error is too high, the packet is lost.

Amend paragraph [0010] as follows:

A5

[0010] The optimal estimator for AWGN channels is a correlator -- a device that calculates the cross-correlation between the received signal and the preamble symbols. The estimate of the timing, amplitude and phase is determined according to the time, amplitude and phase of the peak of the signal at the correlator output. The use of matched filter~~s~~ correlators for synchronization and codeword identification is described in Stremler, Introduction to Communication Systems (1990 Addison-Wesley 3rd ed.), at 431 - 445. Both tapped delay line and time correlator realizations are illustrated.

Amend paragraph [0021] as follows:

A6

[0021] The described approach is, of course, applicable in similar manner, with appropriate option extensions and modifications, to the detection of data packets having split preambles comprising more than two subpreambles. Likewise, use of the imaginary part of $r(t)\square e^{-j\phi}$ finds application in other implementations also, for any type noise detection (impulse/burst noise, AWGN or other), with or without also using the specific equation for β. Usage may even be extended to other applications beyond those involving just split preamble detection, as described above.